

Appln No. 09/775,315  
Amdt date March 28, 2007  
Reply to Office action of December 29, 2006

### REMARKS/ARGUMENTS

In the Office action dated December 29, 2006, the examiner rejected claim 11 under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement. In making this rejection, the examiner asserts that the specification lacks support for the recitation in claim 11 that the lithium manganese oxides and the lithium nickel cobalt oxides remain distinct chemical species. In addition, the examiner appears to assert that this limitation constitutes new matter. To address the written description rejection, applicant has amended the specification to specifically state that the two components remain distinct chemical species.

Turning to the new matter argument, Applicant submits that the original specification does contain support for the limitation in claim 11 and the amendments to the specification noted above. For example, at page 7, lines 9-22 of the original specification, the lithium manganese oxides and lithium cobalt oxides are described as chemically *bonded* and the *reaction product* of these two components is described as unwanted. Given this disclosure, although the two oxides are *bonded*, they are not reacted, and therefore each remain a distinct chemical species.

The examiner points to this same passage on page 7 as incompatible with the limitation in claim 11. The examiner appears to argue that the chemical bond between the oxides renders the resultant product a new chemical species. However, such a reading of this passage is inconsistent with the remaining disclosure in the specification. For example, as noted above, this passage describes the lithium manganese oxides and lithium cobalt oxides as chemically *bonded* and describes the *reaction product* of these two components as unwanted. That the oxides are *bonded* does not prevent them from remaining distinct chemical species. That the oxides do remain distinct chemical species is further supported by the disclosure at page 6, lines 5-11, which describes a two-component *mixture* of nickel cobalt-based oxides and manganese-based oxides, whereby the two components in the mixture exhibit a synergistic effect by compensating for the disadvantages inherent in each of the individual components. If the two components instead were reacted to form a new product, no such synergistic effect would be realized.

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Accordingly, the original specification supports both the limitation in claim 11 and the amendments to the specification, and applicant respectfully requests withdrawal of the written description and new matter rejections in this regard.

The examiner also asserts that the second binder limitation in claim 11 constitutes new matter. However, applicant has amended claim 11 to clarify that the second binder is part of the positive electrode. Such a configuration is fully supported by the original specification. In particular, the specification at page 7, lines 2-8 discloses the use of a first binder in the positive active material, and at page 8, lines 16-19 discloses the use of another or second binder in the preparation of the positive electrode. As such, applicant respectfully requests withdrawal of this rejection.

The examiner also rejected claims 1-4 under 35 U.S.C. §103(a) as allegedly obvious over Pynenburg, et al. (U.S. Patent No. 5,429,890) in view of Hasegawa, et al. (U.S. Patent No. 5,370,948). In maintaining this rejection, the examiner continues to assert that the Declaration filed December 1, 2005 is insufficient to overcome the rejection. However, applicant submits herewith a new Declaration under 37 CFR §1.132 establishing the unexpected and desirable results achieved by the claimed mixtures of lithium manganese oxides and lithium nickel manganese oxides. In particular, the Declaration documents a comparison of a lithium ion battery cell including a positive active material containing a mixture of  $\text{LiMnO}_2$  and  $\text{Mi}_{1.03}\text{Ni}_{0.8}\text{Mn}_{0.2}\text{O}_2$  in a weight ratio of 2/8 (paragraph 2) and a lithium ion battery cell including a positive active material containing a mixture of  $\text{LiMnO}_2$  and  $\text{Mi}_{1.03}\text{Ni}_{0.8}\text{Mn}_{0.2}\text{O}_2$  in a weight ratio of 6/4. According to the experimental results reported in paragraphs 4 and 5 of the Declaration, mixtures of the oxides in weight ratios less than 1 (e.g. 2/8) exhibit unexpected and desirable results compared to mixtures of the same oxides in weight ratios greater than 1 (e.g. 6/4). Accordingly, applicant respectfully submits that claims 1-4 are allowable over Pynenburg and Hasegawa.

Claims 1-4 and 11 remain pending in this application. By this amendment, applicant has amended claim 11 and the specification for clarity. The amendments find full support in the original specification, claims and drawings, as discussed above. No new matter is presented. In

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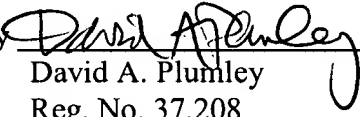
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view of the above amendments and remarks, applicant submits that all of pending claims 1-4 and 11 are in condition for allowance. Applicant therefore respectfully requests reconsideration and a timely indication of allowance. However, if there are any remaining issues that can be addressed by telephone, applicant invites the examiner to contact applicant's counsel at the number indicated below.

Respectfully submitted,

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